THE VETERINARY RECORD

A Weekly Journal for the Profession.

EDITED BY WILLIAM HUNTING, F.R.C.V.S.

No. 78. SATURDAY, JANUARY 4, 1890. VOL. II.

EDITORIAL NOTES.

The question of Dishorning is being actively discussed in Scotland just now. At a meeting held at Perth a large number of farmers spoke, and all agreed that it was a necessary operation, but the arguments adduced in support of their assertions were not such as we can admit. The *North British Agriculturist* this week publishes the leading veterinary opinions. Professor Walley considers every form of the operation cruel. Professor McCall seems to favour sawing off just so much of the tip of the horn as to remove a portion of the "quick," but disapproves of cutting the horns off close to the skull. Mr. Finlay Dun says that the operation is more painful the nearer it is performed to the skull, and Professor Williams expresses the same opinion.

Owners of calves who believe in dishorning may attain their end by cutting off the budding horns with a good pocket knife, and probably few veterinarians would say the operation was cruel, or even *very* painful. When horns have developed there are three different operations which may be performed. (1) removal of the tip, (2) removal of half the horn, (3) removal of the horn close to the skull. In favour of the last-named proceeding no man of standing in the profession has said, or can say, a single word. It is excessively painful, and so abominably cruel as not to be justified by any consideration of convenience or profit on the part of the owner. Removal of half a horn we consider quite as painful a proceeding during the operation, and for some days afterwards, but it does not lead to all the suppurative trouble in the sinuses that follows the total removal. We consider it equally unjustifiable. Removal of the tip of the horn, including the least bit of the "core" is the least painful operation, and there is sufficient evidence to show that it is effective. If the farmers of Scotland are to continue dishorning surely the least painful form is the only one they can logically adopt. They will find it difficult in face of the law here and expert evidence there to successfully defend another action in the High Court. The day of promiscuous brutal operations on animals for sake of convenience, fashion, or gain has passed by, and the good feeling and good sense of the country requires that the infliction of acute pain shall be justified by sufficient reasons.

We have much pleasure in drawing our readers' attention to Mr. Dollar's article on the prevalent Influenza amongst horses in London. He gives in a tabular form the chief clinical facts of twenty cases. The value of these figures is great as showing the disturbance of the pulse, respiration, and temperature every day from the onset of disease to its fall. Warned by Mr. Dollar's notes on the cases we decline to theorise on the relation of the three columns of figures to each other, but we fancy few men will read them without indulging in that irrepressible but much abused exercise of deduction.

It may not be out of place here to mention that on Thursday, January 9th, the Central Veterinary Medical Society will discuss the subject of Influenza, which is to be introduced by Mr. Caton. A full meeting is expected, but room will be found for any member of the profession who cares to attend.

The use of horse-flesh as food by human beings in this country is sadly hampered by prejudice. No doubt many persons eat it and enjoy it when they are under the delusion that they are only eating the flesh of the ox. It seems a pity that such really good food should not be more widely utilized, for there is a large quantity of it absolutely sound and free from disease that might be eaten. The horse is one of the cleanest of domestic animals, his flesh is remarkably free from parasites and diseases communicable to man. Perhaps our notion of good meat, founded as it is upon the flesh of the ox and sheep whose fat is firm, stands in the way of horse-flesh getting a favourable notice, for it is always more or less soft and oily looking, unless when fat is conspicuously absent.

There is very little doubt that we do consume horse-flesh in larger quantities than most of us are aware. The Horse-flesh Act was only passed when a well recognised trade had sprung up in the article, and the law has not yet quite stopped the supply. It seems however to have somewhat altered the course of the trade, and now large quantities are sent abroad to the Continental manufacturers who send it back in the form of tasty comestibles. Another possible use of horse-flesh is suggested by one of our 'notes'—the production of "meat extract." That some thousands of pounds weight of extract should have been sold in the City recently without the name of the maker or place of manufacture is a very suspicious circumstance. There must be an immense demand for "extract" for soups and gravies in London, and the Horse-flesh Act would probably not prevent us from unwittingly partaking of horse-soup or horse-gravy at any institution not too careful in the matter of trade marks or in selecting only the more expensive brands.

ARTICLES AND CASES.

THE PRESENT OUTBREAK OF INFLUENZA.

By Jno. A. W. Dollar, M.R.C.V.S.

The accompanying table is a partial *resumé* of a number of observations made in London during October. So early as August well-marked and characteristic cases of influenza came under my notice, but it was not until the middle of October that an outbreak on a large scale took place. Then I suddenly had from twenty-five to thirty horses laid up in one stable, besides numerous scattered cases. The difficulty of making careful notes will be fully understood, and the incompleteness of my tables perhaps excused when I state that besides the above it was necessary to visit some two hundred horses per day (of which many were patients) and that no help whatever was available. The symptoms presented by well-marked cases were as follows:—the eyes were closed and discharging a thin acrid secretion, the head pendant and pushed into a corner, the coat staring, one or more legs filled, and the patient frequently raised the affected leg or legs as though in pain. Food was refused, though water was taken well. On examining the affected limb it was found swollen and tender, and the horse walked stiff, or more frequently lame, on it. The tissues involved were the fibrous and fibro-serous structures in the neighbourhood of the extensor tendons, and where the swelling extended higher up the leg than the hock or knee, the subcutaneous tissue over the course of the lymphatics. These parts were found hot, swollen, and tender to the touch, but the swelling (especially in the lower part of the leg) seemed more elastic than that of lymphangitis, did not pit on pressure, and was chiefly confined to the posterior aspect of the limb. Not unfrequently one leg alone was affected. Proceeding to a closer examination: the pulse rate was accelerated, the average of the first readings of twenty cases being 57·9 beats per minute, and the extremes 40 and 76 respectively. The pulse was soft and of small volume, and in severe cases almost imperceptible. This was especially notable where the horse had been worked when the subject of high temperature. In more advanced cases there was intermittency.

The conjunctival mucous membrane was thickened, and infiltrated with a serous exudate, which gave it a semi-translucent, gelatinous appearance, while in colour it was a dull brick red tinged with yellow. There was local tenderness as well as photophobia, and in some cases the cornea was milky from infiltration with leucocytes. Occasionally flakes of lymph were mixed with the lachrymal secretion. The schneiderian membrane, in the high temperature stage, was rather dry and tinged with yellow, in the later stages a little watery discharge moistened it, but this was never abundant. The buccal membrane was also yellowish and the tongue furred. The temperature ranged from 101⅘ to 106⅘ F. the average of the first readings of twenty cases being 104·03 F. In the early stages, auscultation revealed roughened breathing and the dry sounds of pneumonia, but these were, in two or three days, replaced by mucous *râles* or altogether lost.

From an experience of about sixty cases during the last few months I should place the incubation stage at from two to four days. Experiments made to determine this point ended negatively, and of six healthy horses placed beside sick ones none became seriously affected. In cases their temperature rose after the second or third day by 1·0 to 1·5 F., but the characteristic lesions were absent, and the temperature soon after declined—no inconvenience being shown in the interval. This was, I think, because all the susceptible subjects had become affected before the experiment was made, and those remaining (from which the six referred to were selected) were capable of withstanding the disease.

Treatment and Course of the Disease.

Starting with a temperature of 104 F. to 106 F., I found that no treatment seemed more efficacious than the administration of simple salines, such as the sulphates of soda or magnesia, combined with nitrate of potash and some carminative. Given in doses of ʒjss to ʒij, three times a day, sulphate of magnesia seems to act more rapidly and certainly than any drug with which I am acquainted, and frequently (as in cases 1. 4, 5, 6. 11, 14, 15, 16, and 19) effects a reduction in temperature of from 2 F. to 4 F. in twenty-four hours. In cases where great debility exists (as where horses have been worked during high temperature stage, as above referred to) it may be necessary to combine with the salines some stimulant, and for this purpose I prefer Spt. Eth. Nit. in doses of fl.ʒj to fl.ʒij. To test the value of a stimulant course of treatment I carried on a series of experiments on a few horses to which I administered Eth. Sulph. fl.ʒjs with G. Camph. ʒi and Ammon. Carb. ʒi, three times a day. The last case (No. 20) is one of these horses. The results of this treatment during the two days. 16th and 17th Oct., were so unfavourable however, that the first line was discontinued and replaced by salines, whose effect is promptly indicated by a fall of 2⅘ degrees in temperature on the 18th and on the 19th by falls of 2⅗ degrees in temperature, 24 beats in pulse rate, and 26 respirations per minute. In no case did I find the same important and immediate reduction in temperature, pulse rate and respirations when using stimulants that almost invariably followed the administration of salines. The reduction in temperature (which is by crisis) is commonly accompanied or closely followed by a similar reduction in the pulse rate, but the respirations very generally continue to increase up to a certain point, even with a falling temperature. Patients exposed to draughts or sudden alterations of temperature not infrequently develope sore throat and troublesome cough or even bronchitis as in the cases of Nos. 15 and 17, and here a stimulant course of treatment seems most successful. Defervescence proceeds rapidly. As soon as the temperature has declined to 100 F. I am in the habit of adding to the saline draught (which is

TABLE

Showing Pulse beats and Respirations per minute, and Temperature (Farenheit) in 20 horses on successive dates. Oct. 1889.

1. Bay horse 7 yrs. old.

Date.	P.	R.	T.
Oct. 25	46	17	104 2/5
26	36	15	99 4/5
27	38	18	99 1/5

2. Brown mare.

23	48	12	103 4/5
24	48	11	104 2/5
25	44	16	103 3/5
26	48	12	102 4/5
27	38	13	98 4/5

3. Bay horse.

22	64	18	104 2/5
23	56	17	103
24	40	14	100 1/5
25	44	14	100 2/5
26	48	14	100 1/5
27	40	13	99 3/5

4. Grey mare 5 yrs. old off

20	52	8	102 4/5
21	44	12	100
22	36	18	99
23	40	16	98 4/5
24	40	13	98 4/5

5. Chestnut gelding 8 yrs. old off

18	56	22	103 2/5
19	44	18	101 2/5
20	42	14	100 2/5
21	36	16	100
22	42	16	100 2/5
23	48	13	99 4/5
24	44	24	100 3/5
25	42	22	99 4/5
26	38	16	99 4/5

6. Grey mare 9 yrs. old.

18	40	18	103 4/5
19	30	15	100 1/5
20	34	15	99 1/5
21	42	26	98 2/5
22	40	30	98 4/5
23	35	33	99
24	44	37	99 2/5

7. Bay mare 7 yrs. old.

Date.	P.	R.	T.
Oct. 18	56	34	103 1/5
19	50	28	101 2/5
20	40	27	99
21	44	21	99 1/5
22	42	20	99 1/5
23	42	14	99 2/5
14	40	22	99

8. Roan geld. 7 yrs. old.

18	56	36	102 4/5
19	50	20	101 4/5
20	40	30	100 3/5
21	40	18	100 1/5
22	44	17	100 4/5
23	48	15	99 3/5
24	36	15	99 1/5

9. Bay mare 6 yrs. old off

18	56	22	103 3/5
19	50	11	103 2/5
20	60	10	102
21	42	10	99
22	42	16	99
23	36	10	99
24	48	15	99 2/5

10. Bay geld. 5 yrs. old off

19	68	14	104 1/5
20	54	11	102 3/5
21	42	10	100 4/5
22	48	18	100 3/5
23	38	9	99 2/5
24	44	18	100 2/5
25	40	14	99 3/5

11. Brown horse.

25	64	44	105
26	56	34	102 3/5
27	54	26	100
28	42	24	99 1/5

12. Bay mare.

16	60	32	105 2/5
17	64	32	104
18	52	26	101 4/5
19	44	26	101 4/5

13. Black horse, aged.

Date.	P.	R.	T.
Oct. 14	48	9	101 3/5
15	48	11	101 3/5
16	44	16	101 1/5
17	48	11	100 2/5
18	44	16	100 1/5
19	58	22	100 1/5
20	52	16	101
21	68	24	102 3/5
22	52	22	100 2/5
23	56	22	100

14. Black mare 6 yrs. old

12	58	16	105 1/5
13	48	12	102 3/5
15	48	13	101 1/5
16	44	19	100 3/5
17	42	26	100 3/5
18	44	26	99 2/5
19	48	18	99 3/5
20	44	22	100 3/5
21	44	14	100 1/5
22	44	23	100 1/5
23	40	13	99 1/5

15. Bay horse.

13	50	10	105
15	40	16	100 4/5
16	40	19	101
17	50	33	105
18	32	18	100 1/5
19	40	23	100
20	44	16	101 1/5
21	36	18	99 4/5
22	38	22	100 2/5
23	40	20	100 4/5
24	42	21	100 2/5
25	34	19	100 1/5
26	44	15	100 2/5
27	34	16	100 2/5

16. Bay mare 9 yrs. old.

13	76	15	103 2/5
15	44	22	100 2/5
16	50	34	101 2/5
17	48	36	100 1/5
18	44	36	100 1/5
19	46	36	100
20	44	38	100 2/5
21	48	38	99 3/5

16. *(Continued)*

Date.	P.	R.	T.
Oct. 22	40	32	100 1/5
23	48	32	96 4/5
24	40	38	100 2/5
25	44	21	99 2/5

17. Chestnut mare 7 yrs.

14	48	9	102 2/5
15	64	12	104 4/5
16	48	17	103
17	44	13	100 4/5
18	42	15	102 2/5
19	46	22	103 1/5
20	42	13	99 4/5
21	42	14	99 1/5
22	40	17	99 2/5
23	40	18	99 4/5
24	40	18	99 4/5

18. Brown geld. 8 yrs. old

15	56	10	106
16	50	12	105 1/5
17	39	11	102 2/5
18	36	11	100 3/5
19	36	15	99 3/5
20	36	13	100 2/5
21	40	20	100 1/5
22	42	26	100 2/5
23	41	24	100 1/5
24	40	26	100
25	38	12	99 4/5

19. Bay mare, aged,

17	56	24	103 4/5
18	50	23	99 2/5
19	50	38	98 2/5
20	48	20	98 3/5
21	48	20	98 2/5
22	42	25	99 4/5
23	36	22	99
24	44	20	98 4/5

20. Roan horse 7 yrs. old.

16	58	38	106 3/5
17	60	32	106 4/5
18	76	44	104
19	52	18	101 3/5
21	48	22	100 3/5
23	32	20	99 2/5
25	40	14	99 4/5

then given once a day) a dose of the sulphates of iron and quinine with sulphuric acid. At this stage a little dry food may be allowed and, after a few days tonic treatment, gentle exercise; but care should be taken to avoid over exertion and cold. When convalescence has been established for a week the swelling of the legs and the profuse perspiration on slight exertion, which have hitherto persisted, show signs of abatement, and in from two to three weeks the normal "condition" is re-established.

General Remarks.

The question has frequently been put to me, "Do horses which have suffered an attack of influenza enjoy immunity afterwards, and if so, for how long?" This is very difficult to answer but I may say that the weight of evidence, so far, leads me to consider that there is a period of protection. This period is, I think, not less than three months, for during that period I have only seen one horse which underwent a characteristic attack which seems again to be suffering from the malady. I am unable to give the P.M. appearances of any horse suffering from influenza, as I have up to this time very luckily escaped any deaths. Of course we really know nothing of this disease at present, either its causation, histology, or *post-mortem* appearances, and I do not believe that a single carefully recorded case exists in veterinary literature. By this, I mean one in which all the symptoms during life were carefully noted, together with pulse, respirations, and temperature, several times a day; where a careful *post-mortem* examination was made, in which the condition of each organ was observed and recorded and in which a proper histological examination of the affected organs concluded the research. While on this subject I should like to add a few remarks on observations in general. It will perhaps be allowed that our professional function is not to cure but to prevent disease. Now we cannot prevent anything without forseeing it, we cannot forsee anything without reasoning (on the assumption that what has been, will be) we cannot reason without facts to go on, we cannot get facts to go on without careful observation, and we cannot remember them without making notes on the spot; *ergo* we cannot fulfil our professional function without careful observation and note taking. Q. E. D.

But I would go a step further and say we should publish such notes. By so doing we shall make our individual knowledge general, and materially enrich one another, knowledge is like the quality of mercy "twice blessed, it blesseth him that giveth and him that receiveth." If we wish to see our profession advance we must take to logical methods, discontinue useless theorising and generalisation (which in our case so much resembles beginning to build a house at the chimneys) and start laying a solid foundation of FACTS carefully verified and recorded on the spot in black and white. Every man can do this in a greater or less degree, and each will equally be doing a service to his profession provided his observations be made with care and conscientiousness. Perhaps it is not too much to expect that the Royal Veterinary College, Camden Town may take a leading hand in such a scheme, and give the body corporate some assistance in the performance of a task for which its professors have long possessed unrivalled opportunities.

RINGWORM.

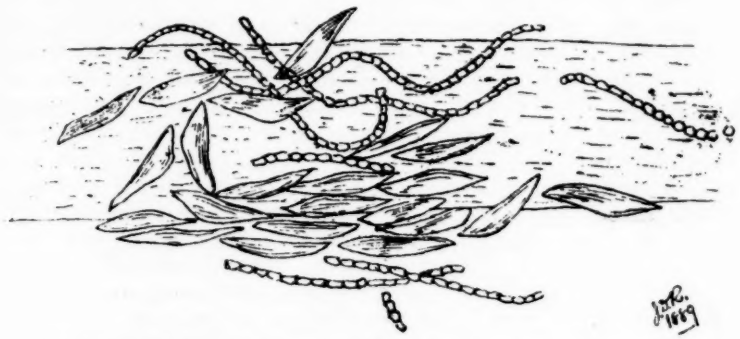
By W. Hunting and J. D. Roberts.

During the latter months of last summer I was permitted to examine an outbreak of contagious skin disease of a somewhat novel character. It was introduced by some of the newly purchased stock, and spread rapidly amongst the young horses. Not a single aged horse was affected although over two hundred cases occurred, and the disease remained in the stables for many weeks. The part first prominently affected was the skin on the portion of the ribs which came in contact with the traces. From this, in some horses, the eruption extended irregularly over the sides, and in a few, reached the hind or fore-quarters. The first evidence of disease consisted in an eruption of small papulæ, the hairs on which were slightly raised. Wherever this eruption occurred on a spot covered by harness it rapidly increased and became sore. Heat, moisture and friction seemed to be the three factors most favourable to its rapid developement. In many cases an eruption appeared on the back and sides, but slowly faded away again without treatment. In one or two cases the distinct circular patches with which we are accustomed to associate the word ringworm, were found on the same horse that showed the general papular eruption. Considerable itching was manifested, and when the eruption was very close some soreness existed, and friction by the harness caused considerable pain. In no case did I notice the eruption affect the limbs below the elbow or hock.

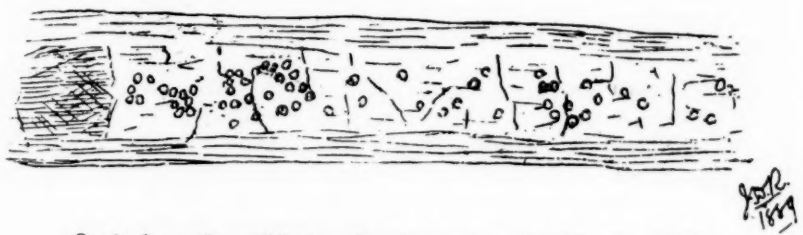
These horses worked in omnibuses, and did not use a saddle as part of their harness. Very seldom were the neck and shoulders affected, so the collar was not a source of much irritation. The chief site of the disease was the side where the traces rubbed. On this part the eruption was very close but seldom extended far. In some cases the affected spot might be the size of a page of writing paper and the worst reached the size of a page of foolscap. The hair was entirely lost from these patches and if the skin were not damaged by harness, it was left smooth and clean.

The treatment adopted was a dressing of spirits of tar in oil which acted very well and effected a cure in a few days. Hardly any young horse in the stables escaped the disease, which developed so slowly that it had, apparently, infective properties before it was noticed and treated.

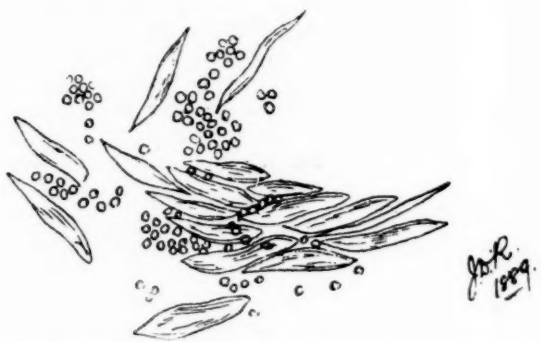
I am unable to say, what length of period of incubation existed, but the foreman thought about a fortnight passed after a new horse joined the stud before he became affected. I was also told that when the outbreak first commenced a number of cases of ordinary circular ringworm were noticed. There were none, or very few, latterly.



Portion of hair with some cells from root sheath amongst which are chains of the parasite. 330 diam.



Optical section of hair, showing spores inside the shaft. 330 diam.



Cells from the root sheath, with spores. 330 diam.

No constitutional disturbance was noticed except when the harness had badly irritated a portion of skin—and then very little. The stables were clean and well ventilated, and all the horses in good health otherwise. I know no case in which the disease spread to the stablemen.

Knowing that Mr. Roberts was interested in the skin diseases of the horse, and that he was a microscopical expert, I forwarded to him some hairs and scrapings from the affected parts.

The result of his examination appears in the drawings he made and forwarded to me with the mounted specimens. He says—"To find the parasite you must adopt one of two methods. (1). Macerate the hair in potass solution for a day or two; mount in water, apply gentle pressure so as to dissociate the cells of the root sheath, and the fungus can be readidly seen with a $\frac{1}{6}$ in. obj. (2). By soaking the hair in spirit for some days, then stain in saturated solution of Aniline, red or blue, put in spirit again, clear with Ol Bergamot and mount in Balsam."

"On looking through the slides with a $\frac{1}{6}$ in. obj. you will find the fungus—both spores and chains—in the root and sheath, and in some specimens the stained spores can be seen *in* the shaft of the hair."

GOVERNMENT VETY. DEPARTMENT.

CONTAGIOUS DISEASES IN ANIMALS.

Reported in Great Britain and Ireland during the week ended December 21st, 1889.

Pleuro-pneumonia.—There were 6 fresh outbreaks of this disease reported in Great Britain during the week, 4 of them in England, in the counties of Cumberland, Kent, London, and Norfolk: the 2 in Scotland occurred in the counties of Forfar and Perth. The number of cattle attacked was 13, in addition to which 49 healthy animals in contact with the diseased were slaughtered. In Ireland 1 fresh outbreak was reported in the South Dublin Union, 1 animal was attacked, and 12 healthy cattle in the North Dublin Union which had been exposed to infection were slaughtered.

Anthrax.—In England 2 fresh outbreaks of this disease were reported, 1 in Norfolk and the other in Northampton, 5 cattle were attacked and 3 died. No cases of anthrax were reported during the week in either Wales, Scotland, or Ireland.

Swine-Fever.—The weekly returns relating to this disease still continue low, only 55 fresh outbreaks were reported in the week, all of them in England; 300 pigs were attacked, 7 of which were in Scotland, all the others being in England. Of the diseased swine 130 were killed, 152 died, 30 recovered, and 267 still remained alive at the end of the week. In Ireland 5 outbreaks of swine-fever were reported in Limerick and Kilkenny, 32 pigs were attacked, 21 of which were killed and 11 died.

Glanders and Farcy.—In England 6 fresh outbreaks of glanders were reported, 5 in London and 1 in Essex; altogether 19 horses were attacked, of which 14 were in London, 1 in Essex, 1 in Middlesex, and 3 in Lanarkshire. In London 4 outbreaks

of farcy were reported and 14 horses attacked. Other parts of Great Britain were free from this disease. No case of either glanders or farcy was reported in Ireland during the week.

Rabies.—In England 3 cases of this disease in dogs, 1 in Lancashire and 2 in York (W.R.). In Ireland there were also 2 fresh cases of rabies in dogs, 1 in Tipperary and the other in Kildare.

EXTRACTS.

HUMAN AND BOVINE TUBERCULOSIS.

The Committee of the North of Ireland Branch of the British Medical Association, consisting of Drs. Burden, Linsay, Strahan, and Calwell, appointed to inquire into the question of bovine tuberculosis and its transmissibility to man, presented a report at a meeting of the Branch, held at the Royal Hospital, Belfast, on December 12th. The report was unanimously adopted.

Pathology and Etiology.

Terminology.—The disease is known by various names, according to the parts of the body it attacks or the kinds of lesions it produces, for example, in the human subject scrofula, pulmonary phthisis, tabes mesenterica, tubercular meningitis, etc.; in the cow the "grapes" or in Germany "pearl disease," and in France "potato disease."

Pathological Identity.—It is now proved beyond all reasonable doubt, and accepted by nearly every authority, that these diseases are all forms of one and the same process, and all caused by a parasitic micro-organism, called from its discoverer "Koch's bacillus," or the bacillus tuberculosis; and that the disease is essentially the same, whether it attacks a man, cow, or fowl. Any difference in the size of the microbe, or in its growth, is due to the change of medium. The bacillus flourishes best at a temperature of 98·5 to 100·5 F.; below 82 F. growth ceases, but the parasite does not die; it is slowly killed by being kept at 107·5 F. for several weeks, or by being boiled for about half an hour. The spores of the bacillus seem still more tenacious of life, and cannot be said to follow these laws exactly. The bacilli are able to resist desiccation for long periods. Tubercular matter, after being dried for several months, is still able to reproduce the disease. The virus of fresh sputum is destroyed by a 5 per cent. solution of carbolic acid, by a saturated aqueous solution of salicylic acid, by absolute alcohol (in the proportion of 3 to 1 of sputum) in twenty hours, but not under. Many other drugs fail completely. Steam destroys it in from fifteen to sixty minutes. According to M. Cornet the ordinary disinfection of household furniture is quite useless for this microbe. Besides flourishing in living animal tissue, the bacillus can be cultivated in sterilised blood serum and other media, when kept at a proper temperature. Koch still obtained the active microbe after carrying it through thirty-four generations of cultures, for a time extending through twenty-two months.

Mortality from Tuberculosis.—In man, 10 to 14 per cent. of all deaths are due to tuberculosis; 150,000, it has been said, die annually in the British Isles of consumption. From 3 to 4 persons per 1,000 living die annually in Ireland of tuberculosis (Sir C. Cameron). On referring to the Registrar-General's summary, it is seen that in the ten years 1871-80 tubercular diseases of the alimentary canal caused, among children under 5 years of age, an average mortality of 2·55 per 1,000 per annum, which is more than twelve times as great as the mortality from these diseases at any other age-period of five years. From an analysis of 127 cases of tuberculosis in children, Woodhead found 43 instances of tubercular ulceration of intestine, and 100 of tubercular degeneration of mesenteric glands. In addition to the actual mortality from the different varieties of tuberculosis, it must be remembered that much suffering, impairment of health and usefulness, and loss to the community also result. Among cattle, dairy cows are most affected; 25, 50, 30, 4.5, 3.5, 37.5 per cent. in various cases are given in the Departmental Committee Report, but these are immediately qualified by paragraph 60, which says: "On analysis it will be found that, as an almost invariable rule, the low percentages given are those for herds fed in the open air most of the year, the high death-rates being among dairy cattle confined in sheds." In Dublin, among slaughtered animals, 4.9 per cent: in Edinburgh, 0.2 per cent. of all slaughtered; in Glasgow, 1 in 180; in Germany, 1.5 to 20 per cent., according to district; in Paris abattoirs, 0.6 per cent.; average of all France, 0 5 per cent.; in Berlin, in 1887-88, where inspection is very strict, 249 men being engaged in it, 4,300 out of 130,733 (high average). The disease occurs with severity among fowls, generally in a fatally epidemic form, every bird in the farmyard being swept off.

Local and General Tuberculosis.—The disease in all animals may be "local," that is, apparently affecting for a time one particular spot; or it may be "generalized," that is, manifestly affecting various parts of the body. The local variety is more common in man than animals; in cattle it is the exception. In cattle the lungs, pleura, serous membranes and glands are the favourite seats, any and each of the other organs, including the udder, being occasionally affected. The marrow of bone (in guinea-pig) has been affected at an early period of the disease, and the bacilli present in considerable number, before they were recognisable by changes obvious to the eye. The same part has also been found affected in a cow. The muscles, though rarely, have also been found affected (Sir Charles Cameron, Hamilton, McCall). The bacilli have also been found in the blood and emboli, and tubercular ulceration of blood vessels has been demonstrated. It is believed that the bacilli do not multiply in the blood, but only when they are lodged in some suitable nidus. The bacilli have been found in the secretions of diseased organs, the sputum, milk, urine, fæces, and these have also been proved to be infective.

Modes of Infection.—The bacilli have been proved

to enter the body in the following ways: 1. By inhalation. This has been proved by causing animals to inhale tuberculous matter dried into dust, or a fine spray containing tuberculous juice. 2. By ingestion. Tuberculous material produces the dieease, when swallowed by animals. 3. By inoculation. Inoculation with tuberculous material nearly invariably causes the disease. It has been supposed to be conveyed directly by (4) heredity. The great majority of opinion is that a special diathesis, susceptible to the poison, is transmitted. Cases have been published of the fœtus of an affected animal being found to be so likewise. It has been pointed out that there is no proof that every case of disease in the lungs necessarily follows from inhalation, as in experiments from ingestion, inoculation (and in the case of a fœtal calf), the lungs are found frequently attacked. The bacilli have been proved to be able to penetrate healthy mucous membrane by M. Cornil.

Infection of Man from the Lower Animals.

The probability of the transmission of the disease from animal to man rests on the following points: (1) the disease is the same in man and animal; (2) man is very susceptible to the disease; (3) animals which are much less susceptible than man become affected by experimental inhalation, ingestion, and inoculation. It is, thefore, a fair deduction that man may become affected by the same methods. Practically, it might be said, it must be by one or other of these methods, although not experimentally. This is supported by an ever-increasing number of recorded cases in which man seems to have been infected from the lower animals; but, as might be expected, owing to the impossibility of experimenting on many, direct proof is somewhat scanty. As regards the possibiliy of man being infected from the lower animals by—

1. *Inhalation.*—The Committee would draw attention to Cornet's experimsnts, which prove that the dust of rooms in which consumptives have lived is capable of producing the disease. If this be so, it seems probable that animals may also infect the air in a similar way.

2. *Ingestion (a)* of Milk.—Professor Bang, at the International Medical Congress at Copenhagen, gave the results of examination of twenty-seven cases of tubercular disease of the udder in cattle, in the milk of which he was able to demonstrate the bacilli, and by the inoculation and injection of the milk to produce the disease in pigs and rabbits; he and Galtier showed that the cream, butter-milk, and butter shared the infectivity. Bang's conclusions have been abundantly supported by numerous observers, and it has also been shown that the disease may be present in the udder, and the bacilli found in the tissues, in the ducts, and in the milk sometimes in enormous quantities, without the disease being recognisable (otherwise) during life (Woodhead and McFadyean). Distinct outbreaks of the disease among pigs, etc., have frequently occurred, which have been traced to milk from affected cows. Ernst, of Boston, U.S.A., gives results of experiments tending to show that the milk of cows affected with tuberculosis may contain bacilli and be infective, although no discoverable lesion is present in the udder. Considering the large percentage of dairy cows which are known to be affected, this is rather startling. There is a general concensus of opinion as to the danger of milk from tubercular udders, and many are inclined to believe that it is a fertile source of tabes mesenterica in the young (*v.* statistics *supra*). A large number of cases of mankind (chiefly children) being affected, presumably from milk, have been published. (*b*) of Meat.—As no one in the present day would advocate the use of actually diseased portions of meat for food, the extreme danger of such being undoubted, the evidence selected on this head in confined to the power of infectivity of the flesh of a carcass as usually sold to the public, that is, with the tuberculous viscera removed, the pleura and peritoneum "stripped."

3. *Inoculation.*—The possibility of this method is hardly questioned; there is some evidence that it may be more frequent than is generally supposed, and cases have been reported of undoubted inoculation in man.

Conclusions and Recommendations.

A The Committee would draw attention to two points that have much impressed them:—First, a generally prevailing idea of the insanitary condition of dairies, byres, etc., and of the unhealthy lives that many of our domesticated animals are compelled to live, reacting on the health of the community. Secondly, the expressed opinion of many authorities that the licensing and inspection of dairies, byres, etc., should be rigid and frequent and that only public abattoirs should exist, where every carcass sold to the public as food should be carefully examined.

B. The Committee would also express the opinion: First, that there is no doubt of the danger of drinking the unboiled milk of cows whose udders are tubercular; that there is a risk, even when the udders present no manifest lesion, if the animal is diseased elsewhere. Secondly, that there is a certain amount of danger in allowing the flesh of a animal affected with local tuberculosis to be sold for consumption; to what extent this risk extends they are not prepared to say—it probably varies in different cases.

C. Further, as a point of medical investigation of great scientific interest and of practical utility, they would recommend that in all cases of tuberculosis springing up suddenly in a family, especially in isolated country houses and villages, the condition of all animals from which the disease might have spread should be carefully investigated, and the results published in a medical journal.

Resolution.

The following resolution was also passed: "That in view of the recent discoveries with regard to human and bovine tuberculosis, and of the opinions held by many eminent scientific authorities concerning the communicability of tuberculosis from man to animal and from animal to man, and in view of the enormous prevalence of the disease in one form or another among mankind, this meeting of the North of Ireland Branch of the British Medical Associa-

tion disapproves of the practice of allowing any part of the carcass of an animal. which has been shown to have been affected with tuberculosis, to be sold as sound and wholesome meat."

British Medical Journal.

ON THE CENTRAL MOTOR INNERVATION OF THE LARYNX.

By Felix Semon, M.D., F.R.C.P.,
and
Victor Horsley, B.S.. F.R.S.,
(From the Laboratory of the Brown Institution).

In 1886 and 1887 we carried out a large series of experiments (over 100) on different species of animals—monkeys, dogs, cats, and rabbits—with a view of investigating the central motor innervation of the larynx. Circumstances have hitherto prevented us from completing these researches; but we have received so many requests from those interested in the subject that we should publish our results, if only in a preliminary form, that we desire to comply and to add the deductions which we think may be legitimately concluded from our experiments. At the same time we wish to state distinctly that this is only a preliminary communication, and that we shall lay a full account of the experiments on which our conclusions are based, together with a complete theory of the motor innervation of the larynx, before the Royal Society in next May or June. We shall also give a full description of the same before the International Medical Congress at Berlin in August next.

The conclusions which we have arrived at are as follows:—

1. There is in each cerebral hemisphere an area of bilateral representation of the adductor movements of the vocal cords, situated in the monkey just posterior to the lower end of the præcentral sulcus at the base of the third frontal convolution, and in the carnivora in the præcrucial and neighbouring gyrus. This area has a focus of intensest representation in the anterior half of the foot of the ascending frontal convolution. Stimulation of this point produces complete bilateral adduction of the vocal cords, which lasts as long as the stimulation is continued. Should, however, the latter be unduly prolonged the "*besoin de respirer*" overcomes the influence of the artificial stimulus and evokes a momentary but powerful abductor movement of the vocal cords. Stimulation of the more peripheral parts of the area evokes less and less perfect adductions as we proceed from the focus outwards, and when the extreme margin of the area is excited only what is known as the "cadaveric position" is assumed by the vocal cords.

The above description applies to the monkey, dog, and rabbit. In the cat we have observed curiously different conditions, for which, at present, we are not prepared to offer any explanation.

2. We have not been able to find in the cortex an area of representation of the abductor movements of the vocal cord.

3. If one of the cortical areas for adduction be so completely excised that stimulation of the neighbourhood of the lesion produces no effect upon the larynx, and if the wound be allowed to heal aseptically, no paralysis of the cords is observed. Further, if subsequently the corresponding area in the opposite hemisphere be excited, just as completely bilateral an adduction of the cords is produced, as if the opposite area were intact.

From the above facts we infer that:

(*a*) Unilateral irritation produces bilateral effect. Thus clinically in any irritative unilateral affection of this area, spasm of the glottis, that is, bilateral adduction of the vocal cords, may occur—for example, in laryngismus stridulus. That this view is not purely theoretical is shown by the association, in severe cases of the last-named illness, of the glottis spasm with the so-called carpo-pedal contractions. This association is most easily explained on the assumption that we have an overflow of energy from the laryngeal to the neighbouring cortical areas for the limbs.

(*b*) Unilateral destruction produces no effect. There is, therefore, no such thing as unilateral paralysis of a vocal cord from lesion of a cerebral hemisphere, as has been asserted. The truth of our statement is made evident by the fact that motor aphasia is not identical with aphonia. Moreover, the observation by one of us [F.S.] of several patients with complete aphasia and right hemiplegia, only a few hours after the apoplectic stroke, has conclusively shown that in such instances the movements of the vocal cords are perfectly preserved.

4. We have observed that on powerful or long-continued excitation of the laryngeal area true epilepsy of the vocal cords supervenes, gradually spreading to the neighbouring muscles of the face, neck, head, and upper limbs. From this we conclude that the epileptic cry is not, as has been so long believed, the result of a discharge primarily from the medulla oblongata, but rather represents a stage in the cortical excitement popularly termed an epileptic fit.

5. Whilst we have found so distinctly specialised an area of representation of adduction in the cortex, and no corresponding area of abduction in this region, we have, on the other hand, found that direct excitation of the accessory nucleus in the medulla oblongata evokes abduction of the cords, and never anything else.

From all the foregoing it follows that our results are in complete harmony with the most recent views of the relation of the cortical to the lower centres; for our experiments have shown that the representation of the laryngeal movements in the cortex is essentially that known as purposive or volitional, since it is adduction, that is, phonation; whilst, on the other hand, the bulbar representation of the larynx is as essentially adapted for the so-called automatic processes of organic life, that is, abduction-inspiration.

Finally, this series of experiments, as well as those we have previously published on the peripheral innervation of the larynx, corroborates in the fullest manner the ideas which one of us [F.S.]

has put forward in his papers on abductor paralysis, namely, the proclivity of the abductors to fail in organic, and of the adductors in functional, disease.—*British Medical Journal.*

A "SHIVERER" IN THE COUNTY COURT.

At Stamford County Court, on Wednesday, before his Honour Judge Hooper, Fred. Gray sued Owen Flint for £13. being the amount of alleged loss on the breach of warranty of a horse. Mr. Hart, of Peterborough, for plantiff; Mr. Atter defended. The case was tried by a jury. On August 20th, the plaintiff went to Mr. Flint's farm in company with a cousin of his named John Elliott, and saw a horse which he bought, on the assurance of Mr. Flint (as he contended) that the animal was sound. The price was £45, for which amount (or less 10/- "for luck") he gave defendant a cheque. The horse was put on the rails at Tollington, and delivered to plaintiff in Grantham the next day. Upon a close inspection he came to the conclusion that the animal was a "shiverer." Plaintiff sent notice to the defendant that it would be put up for auction as a disputed bargain. The animal was so offered at Grantham on the 5th October, and was bought in by defendant for £36 15s., being £8 5s. less than the sum for which he himself sold it to Gray; and it was for this and the expenses attendant upon the sale of the horse, making in all £13, that the plaintiff now sued. He rested his case upon the alleged warranty, in proof of which he called the cousin Elliott; and in evidence of its unsoundness he called Captain Russell, F.R.C.V.S., who saw the animal on September 28th, and certified as to its being a "shiverer"; and Mr. T. A. Rudkin, M.R.C.V.S., who saw it at an earlier date and certified to the same effect.—The defence was that there was no warranty whatsoever, and, further, that the horse was perfectly sonnd, and was not a shiverer. Defendant and Mr. R. D. Hibbins and Mr. Wm. Popple, farmers of Southorpe, were called, the first-named on the case generally (and he flatly denied aay warranty), and the two last as having known the horse from its being a foal, and to show that it had never been "sick nor sorry." Mr. F. Wattam, M.R.C.V.S., Mr. Goodall, veterinary surgeon at Melton Mowbray, and Mr. John Swan, veterinary surgeon of Stamford, were called, and all spoke to having made a careful examination of the horse, their conclusion being that it was not a shiverer, but that on the contrary it was a perfectly sound animal. There was some difference of opinion amongst the vets. as to the precise character of a "shiverer." Captain Russell affirming that shivering was not incurable, while Mr. Goodall contended that it was. Mr. Wattam argued that shivering was not necessarily a spinal disease, but that a horse might be so affected and yet have a perfectly healthy spinal cord: that is, that the shivering might arise from a local affection of the nerves in the hind-quarters. In the event, the jury found for defendant; and his Honour gave judgment accordingly, with the usual costs.

CLEAR THINKING.

Clear thinking was, then, MATTHEW ARNOLD'S chief positive ideal in philosophy, and in accord with this ideal he delighted to combat what he termed "Philistinism." The phrase was perhaps not very happily chosen, inasmuch as it is not self-expressive or obviously appropriate, but the habit of mind thus indicated is very real. By "Philistinism" we understand "inaccessibility to ideas," prejudice—national, provincial, or individual; self-satisfaction—the resting in phrases and formularies instead of searching for principles. As the Philistines were the hereditary foes of the children of light, so Philistinism in philisophy is the opposite of lucidity. It makes itself felt under various disguises—now as individual crassness, again as national glorification. The individual who boasts of himself as "a practical man," thereby implying that he exalts action above thinking, and relies more upon hand or eye than brain, is a Philistine. The man who regards the Victorian era as representing the final consummation of art, science, and philosophy is a Philistine, since he forgets the weighty words of GOETHE: "The little that is done seems nothing when we look forward and see how much we have yet to do."

Philosophy such as that here indicated has a real value for all workers in the pursuit of truth. What better principles can be desired for our profession than the determination to see Nature as she is—not as we fancy her to be, or have been taught to see her; flexibility of mind to give new ideas a patient hearing; clearness of mental vision, and the studious shunning of prejudice or self-glorification? That the medical mind is somewhat prone to some of the phases of Philistinism may be granted. We inherit a vast mass of professional tradition, much of it very ancient, some of it of immense value; we know by daily experience that remedies and methods of treatment so often announced with much confident trumpeting are apt to prove delusive and and valueless; we rightly assign a very high and definite importance to long years of personal experience, and regard with suspicion both the hopes and fears of raw inexperience. All this tends to that mental conservatism which is so marked a professional tradition—a characteristic which seems to be inevitable, and probably is the legitimate fruit of medical life and experience. With us it seems natural to reason that what has been will be, that what has stood the test of past experience will prove its validity in future trial. Within bounds, such a conviction is a safeguard of truth, and a protection against crude theory and vicious practice; pushed beyond bounds, it is Philistinism, inaccesibility to ideas, prejudice, want of intellectual balance and mental flexibility. Many may think that the medical world of to-day is little obnoxious to this charge. Now is the era of scientific, as of social and political, reconstruction. New remedies pour in upon us like a flood. Principles and practices, the most ancient and accepted, are daily subjected to challenge and reconsideration. Yet the

history of medicine shows us clearly that the usual rule is slow progress and occasional stagnation.—*Lancet*.

SURGERY OF 1889.

So far as it appears at present, the year of 1889 will not be famous for any signal advance made in the science or in the art of Surgery. The progress made within the last two decades has been "by leaps and bounds," and much of the good work that is going on now consists in "levelling up." And this "levelling up" is of two kinds—it affects surgeons and surgery. The success of one becomes the experience of many, and methods of examination or of treatment of one disease or organ are applied more widely to other diseases or other organs. Our columns during the year have borne ample testimony to the enterprise and the success of surgeons in all departments. There has been no new development of intracranial surgery to record, but a very good case of trephining for extra-meningeal hæmorrhage was reported in *The Lancet* early in the year, one feature of interest in the case being the absence of fracture of the bone. The removal of the superior cervical ganglion of the sympathetic nerve for epilepsy is a new operation, and it has met with such a fair measure of success that a careful study of it, and its repetition in well-selected cases, seem to be called for. In the surgery of the chest some excellent results have been obtained by injecting emulsion of iodoform into the pleural cavity after evacuating the pus of empyema. The abdominal cavity has so long been the favourite field of many surgeons that it is difficult to add to their trophies. The work initiated by Senn of Milwaukee has borne some good fruit, and there is no doubt that his methods and modifications will form a very valuable addition to the surgeons' means of dealing with many varieties of intestinal obstruction, perforation, and wounds. Electric endoscopy is making way, and in some surgeons' hands the electrolytic treatment of urethral stricture seems to have given good results. In the surgery of the limbs there has not been much to call for special notice. The treatment of obstinate or incurable lesions of the soft parts by removal of portions of the bone or bones is a novel procedure that has been practised with success in Scotland. The injection of a solution of iodoform in cases of tubercular disease of bones and joints has given good results, and promises to be a useful procedure when carefully carried out. Arthrectomy has certainly gained in favour with many surgeons, and the formal excision of diseased and injured joints is becoming a less frequent operation. The treatment of old unreduced dislocations of the shoulder by direct operation has recently been described by Sir Joseph Lister, and his two cases of this operation were so successful that other surgeons who have confidence in their aseptic methods of treatment will no doubt follow his example. From such brilliant illustrations of the value of the aseptic treatment of wounds, it is natural to pass to a review of the recent changes in wound treatment. A few years ago a cry was raised "*Fort mit dem Spray*," and to-day the familiar hiss is rarely heard. The most recent improvement has been in response to the cry of "Away with drain-tubes!" And, although these admirable adjuncts to surgical dressings promise to hold their own in many cases, their field of usefulness has been greatly narrowed of late. Many surgeons rarely use them for recent wounds and in many operations, and thereby obtain a more simple, rapid, and complete healing of such wounds. This result has been obtained partly by the free use of corrosive sublimate solution for irrigation of wounds, and partly by a more careful application of equable, firm, and yet elastic, compression of wounded parts. This latter is no new method of treating wounds, and was successfully practised and eloquently advocated for many years by, amongst others, the late Sampson Gamgee. This year has also witnessed the introduction to the profession of a new antiseptic dressing in the form of the double cyanide gauze of Sir Joseph Lister. The remarkable series of experiments, giving most unlooked-for and beautiful chemical and physical results, which have led up to the production of this gauze in its latest form, will always make an interesting chapter in the history of the development of aseptic surgery and dressings. They admirably illustrate Sir Joseph Lister's caution and true scientific spirit, as well as his thorough knowledge and keen insight, although the final verdict on the gauze has yet to be pronounced.—*Lancet*.

EXPOSING DISEASED CARCASES.

At the Newcastle Police Court last week, Mr. Thomas Hall, was summoned for being the owner of a quantity of meat affected with anthrax, and exposed at the Newcastle Cattle Market on the 12th ult. The Town Clerk, who prosecuted, said that, on Wednesday the 6th of November, defendant had upon his farm seventeen cattle. One was taken ill and died that day; another died on the following day, and a third died on the Friday. Mr. Bulman, veterinary surgeon, Morpeth, examined the beasts, and upon his orders the animals were buried in quicklime. Two other animals were killed on the following Saturday by a butcher from Morpeth, who dressed them in the ordinary way for food. On the Sunday, Mr. Clement Stephenson, veterinary surgeon for Northumberland, went to the defendant's farm, where he found three carcases dressed for food, and discovered that they were affected with anthrax. Mr. Stephenson ordered the carcases to be buried, and also explained the dangerous nature of the disease and the great risk people incurred in coming in contact with the blood. On the following Tuesday morning the Corporation inspector and Mr. Stephenson were in the Cattle Market, and Mr. Stephenson was astonished to see the same three carcases that he had seen and ordered to be destroyed on the farm of the defendant. The meat was seized, and subsequently an order was obtained for

its destruction. Evidence appeared to be rather conflicting, and in the end the Magistrates dismissed the case on the ground that accused had apparently sent forward the carcases in good faith.

REVIEW.

The December number of *The Journal of Comparative Pathology and Therapeutics* (Messrs. A. and K. Johnson, Edina Works, Edinburgh), maintains its high standard of excellence.

It contains seven general articles—four contributed by Professors McCall, Walley, McFadyean, and Sims Woodhead; and three by well-known continental veterinarians. Then follow Editorial articles and Reviews of British and Foreign professional works. The Clinical cases are small in number but very interesting, especially one by Mr. Barling on "A case of Necrosis of the Scapula of a Horse" illustrated by two drawings. In this section the Editor contributes a number of short, but interesting cases of great practical utility, though, as he says "more of a pathological than of a clinical character."

The rest of the volume consists of Abstracts and Reports on Tuberculosis, Actinomycosis, Distomatosis, Rabies, etc. One of these answers the question "Does recovery ever take place in Rabies?" in the affirmative, and relates cases. With no disrespect to the author we shall require strong confirmatory evidence of this. The proceedings of the fifth International Congress of Veterinary Medicine are reported and we regret to see that Mr. Robinson of Grenock is the only British veterinarian who took part in the discussion.

Every practitioner who desires to keep pace with the advance of veterinary science should read this Quarterly Journal, and those who care to contribute to our advance may do so by assisting Professor McFadyean in collecting information. He proposes this year to investigate "The Etiology of Schirrous Cord," and begs for tumours of the spermatic cord to be forwarded to him with such clinical history as can be ascertained. This is sound practical work, and all can help. Don't miss an opportunity.

The Veterinary Surgeons' Diary and Note Book for 1890, made its appearance with the approach of the new year. The fifty pages of special information which precedes the diary is most valuable. In addition to the usual almanack and postal notices we have—a list of medicines, their action and doses; tables of weights and measures; table of solubility; notes on the symptoms and antidotes for the most important poisons; dentition tables and many others. Analytical tables are also given of feeding stuffs, of milk, of blood and of bones, urine and fæces. Lists are given of the internal and external parasites of the domestic animals, and of pasture grasses and clovers, with the common and botanical names. A pretty full synopsis of the Contageous Diseases Animals' Act is also given, which must prove very useful for reference to any practitioner who has not access to the act and its many orders.

The pages for 'Visits' and 'Memoranda' we think might be improved by being simplified. Not quite thirty lines are allowed for the entry of names of clients for a whole week, and only four lines are available for each day's memoranda. Perhaps we are old fashioned but we much prefer our diary space so apportioned as to offer a week to each opening, merely divided by transverse lines. For those practioners, however, who take the medical man and all his works as a perfect model, the diary is as near perfection as can be. Messrs. Ballière, Tyndall and Cox, King William Street, Charing Cross, are the Publishers.

NOTES AND NEWS.

Meat Extract.

Messrs. F. W. Berk & Co., agents for the Kemmerich Extract of Beef Company, send us copies of the following letters:—One from Mr. John Colam, secretary of the Society for Prevention of Cruelty to Animals, saying that after investigation, as far as he has been able to ascertain, horses exported from this country are not turned into extract of beef at Antwerp, and there are no factories in Antwerp where extract of beef is prepared; but a large number of old horses are exported from England to Antwerp which are killed and legally sold as horse-beef in shops; and another from the Great Eastern Railway Company's Continental traffic manager to say that they have not, up to the present, carried any horse-flesh between Harwich and Antwerp. They carry a large number of horses to the Continent, but among these there is never a horse in the least diseased; in fact, they positively decline to accept any knacker which is not accompanied by a certificate of health from a veterinary surgeon.

A quantity of meat extract was sold to-day (Dec. 21st) by public auction. The extract was put up in cases varying from 84 to 224 lbs. in nett weight, two or more tins being placed in a case. It was offered in lots of from 5 to 50 cases, and the sale conditions were rather different to those at which drugs or drysalteries are usually sold. The samples bore no indication of the place of manufacture. The first lot, which appeared to be of good quality, was put in at 3s. 6d. per lb., and ultimately sold at 4s. 7½d. per lb.; then came a less-desirable parcel, which realised 4s. 6d., and finally a large lot, which commenced to sell at 4s., but gradually droppod down to 3s. 7½d., below which price the auctioneer refused to go on. The weight of the total parcel was 32,816 lbs., of which 22,496 lbs. were sold. The value of the total parcel may be estimated at about £7,000. There was also a lot of 167 lbs. offered simply as "extract," which we understood to be fish extract, and for which no offers were obtainable.—*Chemist and Druggist.*

An Irresistible Bait for Rats.

Captain Weedin, in charge of the animals at the 'Zoo' at Washington, has just discovered a new and tempting bait for rats. The building in which some animals were kept was infested with rats. Traps were used, but nothing would tempt the rodents to enter. In a store-room drawer was a quantity of sunflower seed, used as food for some of the birds. Into this drawer the rats gnawed their way—a fact which led the captain to experiment with these seeds as baits for the rats. The result was that the rats could not be kept out. A trap, which appeared crowded with six or eight rats, was found some mornings to hold fifteen. Of course, the drawers would have to be constructed in such a way that the vermin once in, could not get out.

The Centres of Hydrophobia in England.

The Registrar-General has, in his report just issued, made an important deduction about hydrophobia from his mortality returns. He finds that the disease has two great centres in this country. Lancashire is the head and front of the offending as regards hydrophobia From that dread disease the annual deaths per million of the population are in Lancashire 3·30. The figures most nearly approaching it are 2·41 in Cheshire and 2·43 in the West Riding. contiguous districts. The other centre is London, where the deaths are 1·59 per million. The conclusions of the Registrar-General are apparently confirmed by the Agricultural Department's account of the Geographical distribution of rabies in animals.

To a Thoughtful Editor.

By a Lover of "Snippets."

["Though the general public are not aware of it, they take to the snippet because it keeps them from thinking, and stick to it because it has made them unable to think. They will by-and-by insist upon all parliamentary reports, all leading articles being put into paragraphs, and the thoughtful proprietor will yield to their demands."—*Scots Observer.*]

Of all your literary store,
The "leader," friend, I most abhor,
In pointed "pars." Oh kindly chip it,
And let me revel in my snippet.

O bid me not o'er columns pore,
Of news or scientific lore;
Each saliant fact you'll kindly flip it,
Straight down my throat in form of snippet

To read, to think, to judge, decide,
Too often have we vainly tried;
Fond effort! In the bud oh nip it,
With one condensed exhaustive snippet.

Then, friend, since few can spare the time,
With facts or thoughts themselves to prime,
In truth's deep well your pen, please dip it,
And give us wisdom in a snippet.

St. James's Gazette.

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